REMARKS

The Examiner is thanked for the due consideration given the application. The specification has been amended to insert headings and to improve the format.

Claims 1-19, 21-28 and 30-31 are pending in the application. Claim 1 has been amended to improve the language in a non-narrowing fashion. Claims 30 and 31 are newly presented for consideration on the merits. New claim 30 finds support in original claim 2 and in the PCT publication at page 9, second and fourth paragraphs. New claim 31 finds support in the paragraph in the paragraph spanning pages 5 and 6 of the PCT publication.

No new matter is believed to be added to the application by this amendment.

Information Disclosure Statement

An Information Disclosure Statement presenting U.S. Patent 6,262,550 is being filed concurrently with this paper.

Rejections Based on WEST et al.

Claims 1, 4-11, 13-16, 19, 21-24 and 26-28 have been rejected under 35 USC §102(b) as being anticipated by WEST et al. (U.S. Patent 5,120,214). Claims 2, 3, 12, 17, 18 and 25 have been rejected under 35 USC §103(a) as being unpatentable over WEST et al. in view of CARR-BRION (GB 2156520). These rejections are respectfully traversed.

The present invention pertains to a method of monitoring an energy conversion appliance of a kind which

involves a combustion process, and a diagnostic tool for an energy conversion appliance of a kind which involves a combustion process. As is set forth in independent claims 1 and 22, for example, a sound receiving transducer receives sound signals associated with two or more different types of operational events, one of which is a combustion event and the other an operation of a mechanical or electro-mechanical device, and that the sounds are then compared with pre-established data.

WEST et al. pertain to an acoustically operated burner control system. The teachings of WEST et al. are directed primarily to the use of an acoustic sensor for continuously controlling the operation of a burner flame to give optimum or near optimum combustion conditions. Thus, (see column 9, line 63 to column 10, line 5 of WEST et al.) the microprocessor is arranged to constantly adjust the air control, fuel control and flue gas control to result in the required combustion conditions. This reflects the statement, at column 8, line 67 to column 9, line 4 of WEST et al., that the invention relates to the discovery that there is a reliable and near linear relationship between the intensity of all high-frequency sounds generated within the envelope of the flame of the burner and optimum combustion conditions.

In contrast to WEST et al., in the present invention as claimed, the acoustic monitoring fails to result in any actual control of the combustion process (other than shut off in the

event of a major malfunction). Instead, the acoustic monitoring is employed primarily to detect any significant fall-off in combustion performance, as well as the performance of other components such as pumps and relays.

At page 3 the Official Action refers to Figure 1 of WEST et al. (reproduced below) and asserts that a sound receiving transducer of WEST et al. would receive sounds additional to that of the burner because mechanical and electro-mechanical devices are apparently illustrated as being positioned near to the flame.

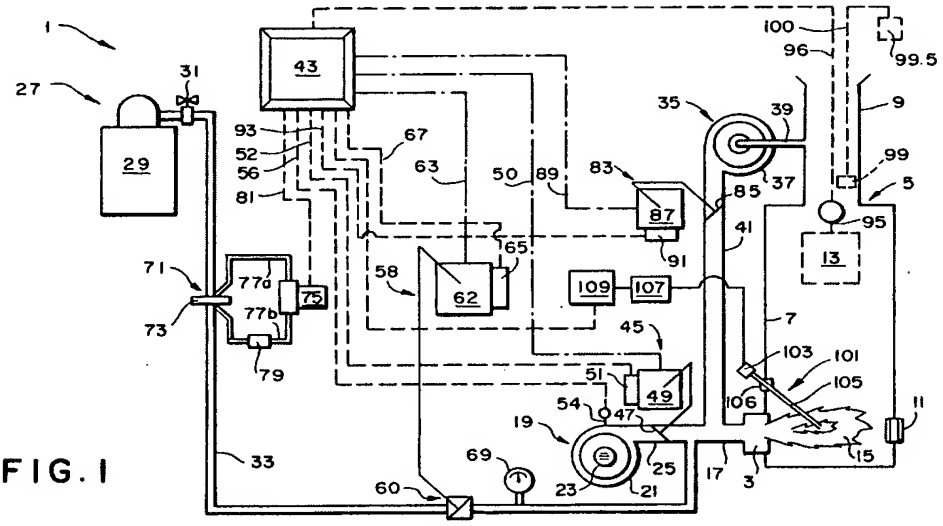


FIG. 1

However, the illustration in Figure 1 of WEST et al. is purely schematic and does not as such define the actual position of the different components.

Also, there is no indication that Figure 1 of WEST et al. is to scale. When a reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value.

See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000).

Additionally, the mechanical and electro-mechanical components of the installation of WEST et al. can be expected to generate a high frequency sound (see the 10 KHz frequency referred to at column 7, line 67 of WEST et al.). If the acoustic sensor were exposed to such sounds additional to that of the burner, the micro processor would not be able to reliably control the combustion conditions. The micro processor would instead seek to control the combustion process in a manner undesirably and erroneously influenced by sounds extraneous to those of the flame.

WEST et al. thus teach away from the present invention.

As a result, WEST et al. fail to anticipate independent claims 1 and 22 of the present invention. The teachings of CARR-BRION fail to address the deficiencies of WEST et al., and a *prima facie* case of unpatentability has thus not been made. Claims depending upon claim 1 or 22 are believed to be patentable for at least the above reasons.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

New Claims 30 and 31

New claims 30 and 31 have been presented for consideration on the merits. New claims 30 and 31 are not

specific to the transducer receiving sound from two or more different types of operational events.

It is believed that new claims 30 and 31 are instantly patentable over the art of record.

Conclusion

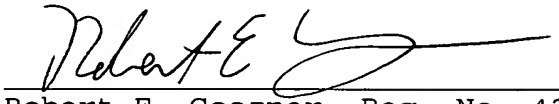
The rejections are believed to have been overcome, obviated or rendered moot, and that no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

Please charge the fee of $210 for the extra independent claim added herewith to our credit card set forth in the attached Credit Card Payment Form.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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